

IN THE CLAIMS:

Claims 1, 25, and 27 are amended herein. Claims 2 and 32-58 are cancelled. All pending claims are produced below. In addition, the status of each is also indicated below and

1. (Currently amended) A system for illuminating a target surface, the system comprising:
a light source, positioned at a first angle relative to a circuit board, the light source configured for emitting light to illuminate the target surface, the first angle being non-perpendicular to the circuit board; and
a lens having an entrance surface and an exit surface, the entrance surface positioned to gather the light from the light source and the exit surface directing the light onto the target surface, ~~wherein the entrance surface and the exit surface are positioned at a second angle relative to each other, the second angle dimensioned to fold a light beam from a first direction associated with the angle of the light source relative to the circuit board to a second direction associated with an impinging angle for illuminating the target surface,~~ wherein the first direction is different from the second direction wherein the light emitted by the light source enters the entrance surface and is refracted at a second angle at the entrance surface, passes through the lens, and is refracted at the exit surface at a third angle to illuminate the target surface.
2. (Cancelled)
3. (Original) The system of claim 1, wherein the lens directs the light onto the target surface using a Fresnel lens.

4. (Original) The system of claim 1, wherein the lens directs the light onto the target surface using a diffractive optical element.
5. (Original) The system of claim 1, wherein the angle between the light source and the circuit board is approximately an angle between 10 degrees and 45 degrees.
6. (Original) The system of claim 1, wherein the light emitted from the light source flows through an opening in the circuit board.
7. (Original) The system of claim 1, wherein the light source protrudes through the circuit board.
8. (Original) The system of claim 1, wherein the lens is wedge-shaped.
9. (Original) The system of claim 1, the entrance surface further comprises a curved surface for gathering light emitted from the light source.
10. (Original) The system of claim 9, wherein the curved entrance surface is aspherical in shape.
11. (Original) The system of claim 1, wherein the exit surface further comprises a curved surface for spreading light emitted from the light source onto the target surface.
12. (Original) The system of claim 11, wherein the curved exit surface is toroidal in shape.
13. (Original) The system of claim 1, wherein the system is for use in an optical mouse.
14. (Original) The system of claim 1, wherein the system is for use in an optical trackball.
15. (Original) The system of claim 1, wherein the light source is a light emitting diode.
16. (Original) The system of claim 1, wherein the lens is made from glass.

17. (Original) The system of claim 1, wherein the lens is made from an optical plastic.
18. – 24. (Cancelled)
25. (Currently amended) A method for illuminating a target surface using an illumination system in a computer pointing device, the method comprising:
- emitting light from a light source positioned at a first angle relative to the surface a circuit board, the first angle being non-perpendicular to the circuit board;
- gathering the emitted light at an entrance surface of a lens; and
- ~~directing the light from the pointing device at a second angle onto the surface using a~~
- ~~refractive lens, wherein the first angle is different than the second angle~~
- refracting the gathered light at the entrance surface at a second angle;
- passing the refracted light through the lens; and
- refracting the passed light at an exit surface of the lens at a third angle to illuminate
- the target surface with the light refracted from the exit surface.
26. (Previously presented) The method of claim 25, wherein the first angle relative to the surface is approximately between 10 degrees and 45 degrees.
27. (Currently amended) An illumination system in a computer pointing device for illuminating a surface, the system comprising:
- a light emitting means for emitting light, the light emitting means ~~tilted~~ structured at a first angle relative to ~~the surface~~ a printed circuit board, the first angle being non-perpendicular to the circuit board;
- a gathering means for gathering the emitted light from the light source at an entrance surface of a directing means; and

~~a directing means for directing the light at a second angle onto the surface, wherein
the first angle is different than the second angle~~

a means for refracting the gathered light at the entrance surface at a second angle;

a means for passing the refracted light through the means for directing; and

a means for refracting the passed light at an exit surface of the means for directing at
a third angle to illuminate the target surface with the light refracted from the
exit surface.

28. (Original) The system of claim 27, wherein the light emitting means is a light emitting diode.
29. (Original) The system of claim 27, wherein the light emitting means is tilted at an angle of approximately 10 degrees to 45 degrees.
30. (Original) The system of claim 27, wherein the gathering means is a lens positioned to gather the light from the light emitting means.
31. (Original) The system of claim 27, wherein the illumination system is housed in an optical mouse.
32. – 58. (Cancelled)